REMARKS

The present application is a divisional application of Serial No. 10/031,795 and is directed to the non-elected subject matter. The subject matter of the parent application will be deleted after issuance of the first Action on the merits.

The specification has been amended on the lines of the amendments presented in the parent application. In addition, the specification has been amended according to amendments effected to the international application. These amendments were filed on July 17, 2001 and were annexed to the International Preliminary Examination Report. An English translation of the cover letter for these amendments are also submitted herewith for the information of the Examiner.

The Patent Office is requested to use the computer-readable version of the Sequence Listing of the parent application in connection with the present application. A paper copy of the Sequence Listing presented in the parent application is presented herewith.

Favorable action on the merits is solicited.

Respectfully submitted,

Takashi HAYAMA et al.

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ANNEXES
filed with the letter
of 17.07.01

AMENDMENT

To: Examiner of the Patent Office

1. Identification of the International Application
PCT/JP00/04991

2. Applicant
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Country of residence: JAPAN

3. Item to be Amended
Description and Claims

4. Subject Matter of Amendment
(1) The word "quinolyl" which appeared on page 9 (6th line), page 35 (27th line), page 95 (9th to 10th line), page 98 (9th to 10th line) of the description should be deleted. And, formular "X=N" should be added at the Example 55 to 64 of Table 9 on page 192 of the description and at the Example 65 to 74 of Table 10 on page 193 of the description.

(2) The word "quinolyl" which appeared in the Claim 1 on page 473 (13rd line), in the Claim 7 page 511 (27th line), in the Claim 7 page 515 (8th line), in the Claim 10 page 531 (6th line) of the claims should be deleted.

5. List of Attached Documents
(1) Replacement sheet of page 9, 35, 95, 98, 192 and 193 of the description
(2) Replacement sheet of page 473, 511, 515 and 531 of the claims

group selected from a set of groups of a pyridyl group, a pyrimidinyl group, a pyradinyl group, a pyridazinyl group, a thiazolyl group, an isothiazolyl group, an oxazolyl group, an isoxazolyl group, a pyrazolyl group, a pyrrolyl group, an imidazolyl group, an indolyl group, an isoindolyl group, an isoquinolyl group, a benzothiazolyl group, and a benzoxazolyl group, which:

(1) may be substituted with one to three of the same or different substituent(s) selected from either a set of groups consisting of a lower alkyl group, a hydroxyl group, a cyano group, halogen atoms, a nitro group, a carboxyl group, a carbamoyl group, a formyl group, a lower alkanoyl group, a lower alkanoyloxy group, a hydroxy lower alkyl group, a cyano lower alkyl group, a halo lower alkyl group, a carboxy lower alkyl group, a carbamoyl lower alkyl group, lower alkoxy group, a lower alkoxycarbonyl group, lower alkoxycarbonylamino group, a lower alkoxycarbonylamino lower alkyl group, a lower alkylcarbamoyl group, a di-lower alkylcarbamoyl group, a carbamoyloxy group, a lower alkylcarbamoyloxy group, di-lower alkylcarbamoyloxy group, an amino group, a lower alkylamino group, a di-lower alkylamino group, a tri-lower alkylammonio group, an amino lower alkyl group, a lower alkylamino lower alkyl group, a di-lower alkylamino lower alkyl group, a tri-lower alkylammonio lower alkyl group, a lower alkanoylamino group, an aroylamino group, a lower alkanoylamidino lower alkyl group, a lower alkylsulfinyl group, a lower alkylsulfonyl group, a lower alkylsulfonylamino group, a hydroxyimino group and a lower alkoxyimino group, or a set of groups

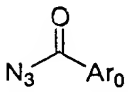
ethyl(1-naphthyl)methyl group, an alpha-ethyl(2-naphthyl)methyl group, diphenylmethyl group and a dinaphthylmethy group, and so on, and a benzyl group, an alpha-methylbenzyl group and a phenethyl group, and so on are especially preferable.

As a straight-chain or branched lower alkylene group, an alkylene group comprising one to six carbon atoms is preferable. As the specific examples, there may be mentioned a methylene group, an ethylene group, a propylene group, a tetramethylene group, a dimethylmethylene group, a diethylmethylene group, and so on. Among them, for example, a methylene group, an ethylene group, a propylene group and a dimethylmethylene group, and so on are preferable.

As a spiro cyclo lower alkyl group, an alkyl group which forms a spiro ring of three to six carbon atoms is preferable. As the specific examples, there may be mentioned a spiro cyclopropyl group, a spiro cyclobutyl group, a spiro cyclopentyl group and a spiro cyclohexyl group, and so on. Among them, a spiro cyclopentyl group and a spiro cyclohexyl group, and so on are more preferable.

Ar represents a nitrogen-containing heteroaromatic ring group selected from a group consisting of a pyridyl group, a pyrimidinyl group, a pyradinyl group, a pyridazinyl group, a thiazolyl group, an isothiazolyl group, an oxazolyl group, an isoxazolyl group, a pyrazolyl group, a pyrrolyl group, an imidazolyl group, an indolyl group, an isoindolyl group, an isoquinolyl group, a benzothiazolyl group and a benzoxazolyl group. Among them, for example, a pyridyl group, a pyrimidinyl group, a

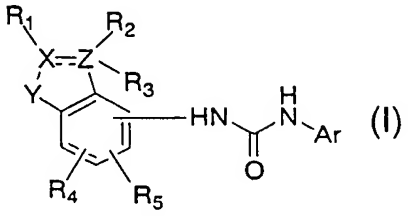
represents a single bond or double bond] with the compound of formula (IV)



(IV)

[in the formula, A_{r0} is nitrogen containing heteroaromatic ring group selected from the group consisting of pyridyl group, pyrimidinyl group, pyrazinyl group, pyridazinyl group, thiazolyl group, isothiazolyl group, oxazolyl group, isoxazolyl group, pyrazolyl group, pyrrolinyl group, imidazolyl group, indolyl group, isoindolyl group, isoquinolyl group, benzothiazolyl group and benzoxazolyl group:(1) heteroaromatic ring group, which may have the same or diffent 1 to 3 substituent(s) selected from the substituents consisting of lower alkyl group, optionally protected hydroxyl group, cyano group, halogen atom, nitro group, carboxyl group which may be protected, carbamoyl group, formyl group, lower alkynoyl group, lower alkynoyloxy group, optionally protected hydroxyl lower alkyl group, cyano lower alkyl group, halogenated lower alkyl group, optionally protected carboxyl lower alkyl group, carbamoyl lower alkyl group, lower alkoxy group, lower alkoxycarbonyl group, lower alkoxycarbonylamino group, lower alkoxycarbonylamino-lower alkyl group, lower alkylcarbamoyl group, di-lower alkylcarbamoyl group, carbamoyloxy group, lower alkylcarbamoyloxy group, di-lower alkylcarbamoyloxy group, optionally protected amino group, lower alkylamino group, di-lower alkylamino group, tri-lower alkylammonio group, amino lower alkyl group, lower alkylamino-lower alkyl group, di-lower alkylamino-lower

pretective group to obtain the compound of formula (I)



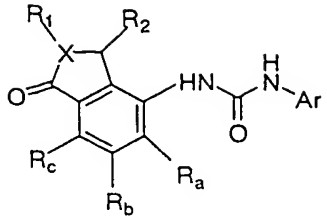
[in the formula,

Ar is nitrogen containing heteroaromatic ring group selected form the group consisting of pyridyl group, pyrimidinyl group, pyrazinyl group, pyridazinyl group, thiazolyl group, isothiazolyl group, oxazolyl group, isoxazolyl group, pyrazolyl group, pyrrolinyl group, imidazolyl group, indolyl group, isoindolyl group, isoquinolyl group, benzothiazolyl group and benzoxazolyl group,

(1) heteroaromatic ring group, which may have the same or different 1 to 3 substituent(s) selected from

(i) substituent consisting of lower alkyl group, hydroxyl group, cyano group, halogen atom, nitro group, carboxyl group, carbamoyl group, formyl group, lower alkynoyl group, lower alkynoyloxy group, optionally protected hydroxyl lower alkyl group, cyano lower alkyl group, halogenated lower alkyl group, carboxyl lower alkyl group, carbamoyl lower alkyl group, lower alkoxy group, lower alkoxycarbonyl group, lower alkoxycarbonylamino group, lower alkoxycarbonylamino-lower alkyl group, lower alkylcarbamoyl group, di-lower alkylcarbamoyl group, carbamoyloxy group, lower alkylcarbamoyloxy group, di-lower alkylcarbamoyloxy group, amino group, lower alkylamino group, di-lower alkylamino group, tri-lower alkylammonio group, amino lower

Table 9



(Ia)

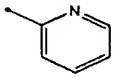
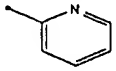
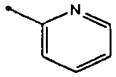
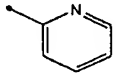
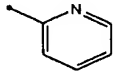
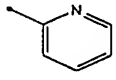
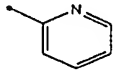
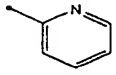
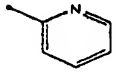
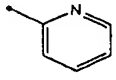
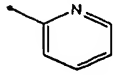
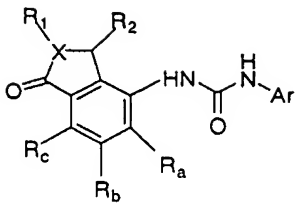
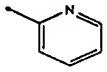
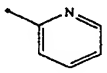
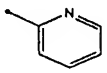
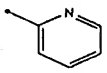
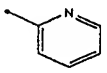
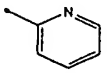
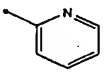
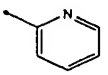
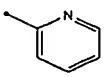
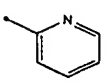
Example	Ring structure formed by R_1, R_2 and X taken together or chemical structures of the substituents	Ar	R_a	R_b	R_c
54			H	Br	H
55	R_1=H ; R_2=O ; X=N		H	H	H
56	R_1=Me ; R_2=O ; X=N		H	H	H
57	R_1=Et ; R_2=O ; X=N		H	H	H
58	R_1=n-Pr ; R_2=O ; X=N		H	H	H
59	R_1=i-Pr ; R_2=O ; X=N		H	H	H
60	R_1=n-Bu ; R_2=O ; X=N		H	H	H
61	R_1=$(CH_2)_4OH$; R_2=O ; X=N		H	H	H
62	R_1=$CH_2CH(CH_2OH)_2$; R_2=O ; X=N		H	H	H
63	R_1=CH_2COOEt ; R_2=O ; X=N		H	H	H
64	R_1=Bn ; R_2=O ; X=N		H	H	H

Table 10



(Ia)

Example	Chemical structures of the substituents	Ar	R_a	R_b	R_c
65	$R_1=(CH_2)_2Ph$; $R_2=O$; X=N		H	H	H
66	$R_1=CH_2Ph(2-NH_2)$; $R_2=O$; X=N		H	H	H
67	$R_1=CH_2Ph(3-NH_2)$; $R_2=O$; X=N		H	H	H
68	$R_1=CH_2(2-Py)$; $R_2=O$; X=N		H	H	H
69	$R_1=CH_2(3-Py)$; $R_2=O$; X=N		H	H	H
70	$R_1=CH_2(4-Py)$; $R_2=O$; X=N		H	H	H
71	$R_1=CH_2Ph(4-MeOCO)$; $R_2=O$; X=N		H	H	H
72	R_1=2-cyclohexen-1-yl ; $R_2=O$; X=N		H	H	H
73	R_1=cyclohexylmethyl ; $R_2=O$; X=N		H	H	H
74	R_1=N-methylpiperidin-4-yl ; $R_2=O$; X=N		H	H	H